

WHAT IS CLAIMED IS:

1. A light emitting device comprising:
  - a light emitting element provided in a pixel;
  - a first transistor provided in said pixel for determining a current value flowing in the light emitting element; and
  - a second transistor provided in said pixel for determining a light emission or non-emission of the light emitting element according to a video signal,
    - wherein the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a second power supply;
    - a gate electrode of the first transistor is connected to the first power supply; and
    - the first transistor is a depletion mode transistor.

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2. A device according to claim 1, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a threshold potential of the second transistor.

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3. A device according to claim 1, wherein each of the first transistor and the second transistor has an N-type conductivity and a threshold potential of the first transistor is lower than a threshold potential of the second transistor.

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4. A device according to claim 1, wherein a channel length of the first transistor is longer than its channel width, and a channel length of the second transistor is equal to or shorter than its channel width.

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5. A device according to claim 4, a ratio of the channel length to the channel width of the first transistor is five or more.

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6. A light emitting device comprising:  
a light emitting element provided in a pixel;  
a first transistor provided in said pixel for determining a current value flowing in the light emitting element; and  
a second transistor provided in said pixel for determining a light emission or non-emission of the light emitting element according to a video signal,

wherein the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a second power supply;

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a gate electrode of the first transistor is connected to either a source electrode or a drain electrode of the first transistor; and  
the first transistor is a depletion mode transistor.

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7. A device according to claim 6, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a

threshold potential of the second transistor.

8. A device according to claim 6, wherein each of the first transistor and the second transistor has an N-type conductivity and  
5 a threshold potential of the first transistor is lower than a threshold potential of the second transistor.

9. A device according to claim 6, wherein a channel length of the first transistor is longer than its channel width, and a channel 10 length of the second transistor is equal to or shorter than its channel width.

10. A device according to claim 9, a ratio of the channel length to the channel width of the first transistor is five or more.

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11. A light emitting device comprising:  
a light emitting element provided in a pixel;  
a first transistor provided in said pixel for determining a current value flowing in the light emitting element; and  
20 a second transistor provided in said pixel for determining a light emission or non-emission of the light emitting element according to a video signal; and  
a third transistor provided in said pixel for controlling input of said video signal,  
25 wherein the light emitting element is connected in series to

the first transistor and the second transistor between a first power supply and a second power supply;

a gate electrode of the first transistor is connected to the first power supply; and

5 the first transistor is a depletion mode transistor.

12. A device according to claim 11, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a 10 threshold potential of the second transistor.

13. A device according to claim 11, wherein each of the first transistor and the second transistor has an N-type conductivity and a threshold potential of the first transistor is lower than a threshold 15 potential of the second transistor.

14. A device according to claim 11, wherein a channel length of the first transistor is longer than its channel width, and a channel length of the second transistor is equal to or shorter than its channel 20 width.

15. A device according to claim 14, a ratio of the channel length to the channel width of the first transistor is five or more.

25 16. A light emitting device comprising:

a light emitting element provided in a pixel;  
a first transistor provided in said pixel for determining a current value flowing in the light emitting element;  
a second transistor provided in said pixel for determining a  
5 light emission or non-emission of the light emitting element according to a video signal; and  
a third transistor provided in said pixel for controlling input of said video signal.

wherein

10 the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a second power supply;  
a gate electrode of the first transistor is connected to either a source electrode or a drain electrode of the first transistor; and  
15 the first transistor is a depletion mode transistor.

17. A device according to claim 16, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a  
20 threshold potential of the second transistor.

18. A device according to claim 16, wherein each of the first transistor and the second transistor has an N-type conductivity and a threshold potential of the first transistor is lower than a threshold  
25 potential of the second transistor.

19. A device according to claim 16, wherein a channel length of the first transistor is longer than its channel width, and a channel length of the second transistor is equal to or shorter than its channel width.

20. A device according to claim 19, a ratio of the channel length to the channel width of the first transistor is five or more.

10 21. A light emitting device comprising:  
a light emitting element provided in a pixel;  
a first transistor provided in said pixel for determining a current value flowing in the light emitting element;  
a second transistor provided in said pixel for determining a 15 light emission or non-emission of the light emitting element according to a video signal;  
a third transistor provided in said pixel for controlling an input of the video signal; and  
a fourth transistor provided in said pixel for setting the light 20 emitting element in a non-emission state regardless of the video signal,

wherein the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a second power supply;

25 a gate electrode of the first transistor is connected to the

first power supply; and

the first transistor is a depletion mode transistor.

22. A device according to claim 21, wherein each of the first  
5 transistor and the second transistor has a P-type conductivity and  
a threshold potential of the first transistor is higher than a  
threshold potential of the second transistor.

23. A device according to claim 21, wherein each of the first  
10 transistor and the second transistor has an N-type conductivity and  
a threshold potential of the first transistor is lower than a threshold  
potential of the second transistor.

24. A device according to claim 21, wherein a channel length  
15 of the first transistor is longer than its channel width, and a channel  
length of the second transistor is equal to or shorter than its channel  
width.

25. A device according to claim 24, a ratio of the channel length  
20 to the channel width of the first transistor is five or more.

26. A light emitting device comprising a pixel comprising:  
a light emitting element provided in a pixel;  
a first transistor provided in said pixel for determining a  
25 current value flowing in the light emitting element;

a second transistor provided in said pixel for determining a light emission or non-emission of the light emitting element according to a video signal;

5 a third transistor provided in said pixel for controlling an input of the video signal; and

a fourth transistor provided in said pixel for setting the light emitting element in a non-emission state regardless of the video signal,

10 wherein the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a second power supply;

a gate electrode of the first transistor is connected to either a source electrode or a drain electrode of the first transistor; and the first transistor is a depletion mode transistor.

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27. A device according to claim 26, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a threshold potential of the second transistor.

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28. A device according to claim 26, wherein each of the first transistor and the second transistor has an N-type conductivity and a threshold potential of the first transistor is lower than a threshold potential of the second transistor.

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29. A device according to claim 26, wherein a channel length of the first transistor is longer than its channel width, and a channel length of the second transistor is equal to or shorter than its channel width.

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30. A device according to claim 29, a ratio of the channel length to the channel width of the first transistor is five or more.

31. An element substrate comprising:

10 a pixel electrode provided in a pixel;

a first transistor provided in said pixel for determining a current value flowing in the pixel electrode; and

a second transistor provided in said pixel for determining a current supply or no current supply to the pixel electrode according

15 to a video signal,

wherein the first transistor is connected in series to the second transistor between a first power supply and the pixel electrode;

a gate electrode of the first transistor is connected to the first power supply; and

20 the first transistor is a depletion mode transistor.

32. A substrate according to claim 31, wherein each of the first transistor and the second transistor has a P-type conductivity and a threshold potential of the first transistor is higher than a 25 threshold potential of the second transistor.

33. A substrate according to claim 31, wherein each of the first transistor and the second transistor has an N-type conductivity and a threshold potential of the first transistor is lower than a threshold potential of the second transistor.

34. A substrate according to claim 31, wherein a channel length of the first transistor is longer than its channel width, and a channel length of the second transistor is equal to or shorter than its channel width.

35. A substrate according to claim 34, wherein a ratio of the channel length to the channel width of the first transistor is five or more.

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36. An element substrate comprising:  
a pixel electrode provided in a pixel;  
a first transistor provided in said pixel for determining a current value flowing in the pixel electrode; and  
20 a second transistor provided in said pixel for determining a current supply or no current supply to the pixel electrode according to a video signal,  
wherein the first transistor is connected in series to the second transistor between a first power supply and the pixel electrode;  
25 a gate electrode of the first transistor is connected to either

a source electrode or a drain electrode of the first transistor; and  
the first transistor is a depletion mode transistor.

37. A substrate according to claim 36, wherein each of the first  
5 transistor and the second transistor has a P-type conductivity and  
a threshold potential of the first transistor is higher than a  
threshold potential of the second transistor.

38. A substrate according to claim 36, wherein each of the first  
10 transistor and the second transistor has an N-type conductivity and  
a threshold potential of the first transistor is lower than a threshold  
potential of the second transistor.

39. A substrate according to claim 36, wherein a channel length  
15 of the first transistor is longer than its channel width, and a channel  
length of the second transistor is equal to or shorter than its channel  
width.

40. A substrate according to claim 39, wherein a ratio of the  
20 channel length to the channel width of the first transistor is five  
or more.